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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/796,008

03/10/2004

Tse-Hao Ko

KO53

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1444 7590 07/06/2007  
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EXAMINER

PIZIALI, ANDREW T

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

07/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/796,008

Applicant(s)

KO, TSE-HAO

Examiner

Andrew T. Piziali

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on 4/5/2006 has been entered. It is noted that the applicant used improper status identifiers, but in the interest of customer service the errors have been overlooked. In future listings of claims the applicant is required to only use one of the approved status identifiers (i.e. original, currently amended, canceled, previously presented, new, not entered, withdrawn, or withdrawn-currently amended).

### ***Election/Restrictions***

2. Applicant's election with traverse of Group II, claims 16-18, in the reply filed on 9/7/2005, is acknowledged. The traversal is on the grounds that new claims 19 and 20 no longer allow the product as claimed to be made by preparing the woven fabric from fibers that were previously carbonized. This is not found persuasive because while it is noted that new claim 19 is a product-by-process claim that incorporates the same process steps as described in process claim 1, a product defined by the process by which it can be made is still a product claim and can be restricted from the process if the examiner can demonstrate that the product as claimed can be made by another materially different process such as the alternative process. Regarding applicant's assertion that a complete search of elected Group II claims would require a search in 156/89.26, applicant's argument is not persuasive because it is unsupported.

3. Since new claim 19 is drawn to the subject matter of elected Group II while new claim 20 is drawn to the subject matter of non-elected Group I, claims 1-15 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

The requirement is still deemed proper and is therefore made FINAL.

***Response to Notice of Non-Compliant Amendment***

4. The applicant is directed to

<http://www.uspto.gov/web/offices/pac/dapp/revised121qnas.htm> wherein it is stated:

“A2. If the examiner made a restriction requirement and applicant elected with traverse and filed an amendment to the claims, what status identifiers should be used for the non-elected claims that are being amended, the non-elected claims that are not amended, and new claims that are drawn to the non-elected invention?”

The non-elected claims that are amended must have the status identifier (withdrawn) or (withdrawn-currently amended). The non-elected claims that are not amended must have the status identifier (withdrawn). Any new claims that are drawn to a non-elected invention must have the status identifier (new).”

***Drawings***

5. Figure 5 should be designated by the legend --Prior Art-- because only that which is old is illustrated. See page 2, lines 23 and 24 and page 6, lines 8-10 of the current specification. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

6. Claim 16 is objected to because of the following informality: The claim is written as a carbon fabric formed “of” oxidized fibers of polypropylene, but in view of the specification the claim is clearly drawn to a carbon fabric formed from oxidized fibers of polypropylene that have been changed into carbon fibers upon carbonization treatment (see page 3, lines 1-13).

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 16-18 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure that is not fully enabling. It is critical and essential to the practice of the invention that the fabric be woven, but this limitation is not included in the claims. The current specification does not provide enablement for the full scope (any fabric construction) of the claimed subject matter.

See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,950,533 to McCullough in view of USPN 3,914,393 to Ram.

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Regarding claims 16-19, McCullough discloses a flame retardant woven, densified carbon fabric filter wherein the carbon fibers have a carbon content of at least 65%, a nitrogen content of from 10 to 20%, and a limiting oxygen index of at least 40 (see entire document including column 2, lines 51-68, column 3, lines 56-6, column 4, lines 14-17 and 51-57, and column 5, lines 22-31).

McCullough does not appear to mention the oxygen content of the carbon fibers, but Ram discloses that it is known in the carbon fiber art to make carbon fibers with an oxygen content of at least about 7% (see entire document including column 3, lines 32-40). Ram also discloses that it is known in the art to carbonize at a temperature high enough to produce graphitic carbon (paragraph bridging columns 3 and 4). It is noted that graphitic carbon has a density of over 1.68 g/ml (about 2.2 g/ml). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the carbon fibers from any suitable carbon fiber material, such as that disclosed by Ram, because the carbon fibers disclosed by Ram are heat resistant and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. **KSR v. Teleflex**

Regarding the claimed product-by-process limitation (forming the carbon fabric from oxidized fibers of polypropylene), it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

Regarding the claimed wave shielding property, considering that the carbon fabric taught by the applied prior art is substantially identical to the claimed carbon fabric, it appears that the carbon fabric inherently possesses the claimed wave shielding property.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on

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inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

11. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,950,533 to McCullough in view of USPN 4,861,809 to Ogawa.

Regarding claims 16-19, McCullough discloses a flame retardant woven, densified carbon fabric filter wherein the carbon fibers have a carbon content of at least 65%, a nitrogen content of from 10 to 20%, and a limiting oxygen index of at least 40 (see entire document including column 2, lines 51-68, column 3, lines 56-6, column 4, lines 14-17 and 51-57, and column 5, lines 22-31).

McCullough does not appear to mention the oxygen content of the carbon fibers, but Ogawa discloses that it is known in the carbon fiber art to make carbon fibers with an oxygen content of 3 to 10% (see entire document including column 2, lines 47-64). Ogawa also discloses that it is known in the art to use carbon fibers with a density of at least 1.5 g/cm<sup>3</sup> (at least 1.5 g/ml) (column 3, lines 11-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the carbon fibers from any suitable carbon fiber material, such as that disclosed by Ogawa, because the carbon fibers disclosed by Ogawa possesses low heat conductivity and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.



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The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. **KSR v. Teleflex**

Regarding the claimed product-by-process limitation (forming the carbon fabric from oxidized fibers of polypropylene), it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

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Regarding the claimed wave shielding property, considering that the carbon fabric taught by the applied prior art is substantially identical to the claimed carbon fabric, it appears that the carbon fabric inherently possesses the claimed wave shielding property.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

### ***Conclusion***

12. The following patent is cited to further show the state of the art with respect to the density of graphitic carbon:

USPN 5,238,619 to McGuigan

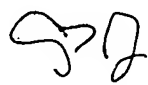
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

atp

 6/20/07  
ANDREW PIZIALI  
PRIMARY EXAMINER